

The Changing Continents

I. Reshaping Earth's crust

Continents contain large area of stable rock called cratons older than 540 mill. Years

Rocks within the cratons are called shields

A. Rifting and Continental Reduction

Crust keeps heat from the mantle. That heat thins and weakens the lithosphere and it breaks apart.

1. Rifting- processes in
Which a continent breaks
Apart

B. Terranes and continental growth

Accretion is where terranes become part of a continent.

Seamounts and atolls (coral islands) can also be a terrane

1. Terrane- piece of lithosphere that has unique geologic history
 - a. Contains rock, fossils that differ from neighboring terranes
 - b. Major faults at the boundaries
 - c. Magnetic property differs from neighboring terrane.

II. Effects of continental change

Climate can be affected by past movement in tectonic plates

A. Changes in climate

Ice used to cover most of the continent. Global temperature changed after ice sheet melted

B. Changes in life

As earth changed populations separated and evolved into new species

III. Super continent cycle

A. Pangea

Formed- 300 million years ago

Was surrounded by Panthalassa (single ocean during time of Pangea) broke up 200 million years ago and started to form the modern continents

B. Why super continents form

Continents collide they don't subduct and they form new boundary

C. Geography of the future

As plates move geography will continue to change scientist predict in 150 million years all the continents will collide again

D. Supercontinent cycle- process of supercontinents forming and breaking

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